

It was observed that by the end of regimen there was significant reduction in the severity and symptoms of asthma along with significant improvement in FEV from 65.2% to 74.9% (*p<0.05; Fig. 1), FVC from 96.2% to 105.1% (*p<0.05; Fig. 2), PEFR from 44.4% to 64.2% (**p<0.01; Fig. 3) was observed from 1st week to 4th week respectively.

There were no clinically significant mild or severe adverse reactions (either reported or observed), during the entire period of the study and excellent patient compliance to N-Astheal[®] was observed.

Table 1: Subjects demographics

Age	Number of patients	Percentage
18-34	5	41.7
35-52	6	50.0
53-70	1	8.3

Table 2: Blood chemistry of N-Astheal[®]

Blood chemistry	Treatment	
	1 st week	4 th week
Urea	18.44±11.04	14.76±9.74
Creatinine	0.93±0.35	0.63±0.43
Total bilirubin	0.51±0.06	0.44±0.30
D-bilirubin	0.26±0.16	0.23±0.19
SGOT	16.7±10.33	24.18±18.34
SGPT	19.07±13.21	22.5±17.09
Alkaline phosphatase	52.47±32.32	72.18±67.29

Values expressed in Mean±SD for n=12, SD: Standard deviation, SGOT: Serum glutamate oxaloacetate transaminase, SGPT: Serum glutamate pyruvate transaminase

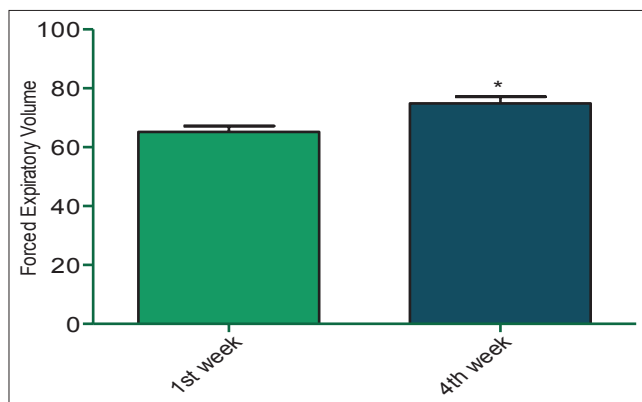


Fig. 1: Effect of N-Astheal[®] on forced expiratory volume

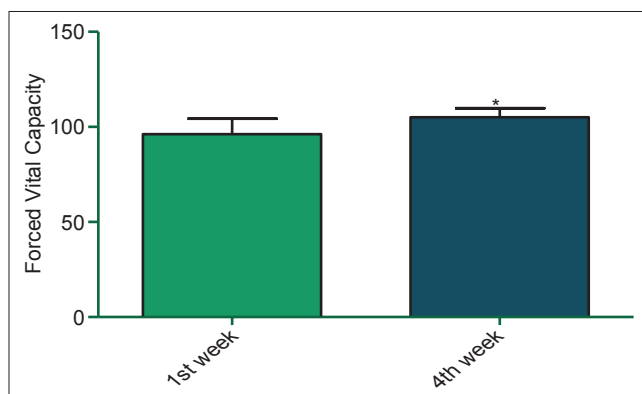


Fig. 2: Effect of N-Astheal[®] on forced vital capacity

DISCUSSION

Asthma is a chronic disease characterized by acute exacerbation of coughing, dyspnea, wheezing and chest tightness. Patients usually have reduced FEV1 as well as reduced airflow. This open-label, single centric, non-comparative pilot trial compared the effects of 3 weeks of treatment with the tablet herbal mixture N-Astheal[®] on lung function, asthma control and cough related health status. It was shown that N-Astheal[®] therapy could improve pulmonary efficiency. The primary outcome of the study was lung function. Significant improvement in lung function was found in the N-Astheal[®] group in 3 weeks of treatment. It was, therefore, very likely that N-Astheal[®] alleviated asthmatic attacks through a direct influence on lung functions. Prior reports suggest that CAMs may have some therapeutic effects on allergic asthma [11]. This study was conducted to determine the safety and efficacy of N-Astheal[®] on patients with mild asthma. In the Indian community, people often wish to use herbal therapy to supplement conventional medical treatment for a person suffering from asthma so that the dosage of steroids could be reduced to lessen their side-effects [12]. Our present study may have given them some assurance. N-Astheal[®] was safe and effective in improving lung functions. We chose changes in FEV1 as the first efficacy end point on account of their validity for the monitoring of airway obstruction. By the end of the study, FEV1 was significantly improved in N-Astheal[®]-treated patients. Moreover, a marked progression in lung function of more than 10 compared with baseline was achieved for most patients. With the increasing popularity of herbal remedies, N-Astheal[®] showed a marked easing effect. The overall symptoms and emotions domains of the patients showed significant improvement. The factors possibly contributing towards the easing effect could be the increased nurse - patient interactions (e.g., reminder calls and monthly study visit for proper asthma management) leading to better self-cares and thus improved outcome measures.

CONCLUSION

N-Astheal[®] showed an overall improvement in asthma symptoms and had a good patient compliance, even improvement in diagnostic parameters FVC and PEFR (FEV1/FVC) which are clinically used as an index of lung functions. The result showed that there were significant differences in FVC and PEFR before and after the treatment. FVC will be diminished in both obstructive and restrictive diseases. The improvement in FVC and PEFR of the patients after N-Astheal[®] treatment for 3 weeks supports the postulation of decreased airway obstruction. In addition, there was a prominent reduction in severity and symptoms of asthma. There were no clinically significant mild or severe adverse reactions (either reported or observed), during the entire period of study and excellent patient compliance to N-Astheal[®] was also observed. This anti-asthmatic effect of N-Astheal[®] could be achieved because of the unique formula and its highly efficient broad spectrum activity for respiratory conditions. N-Astheal[®] shows prompt relief from shortness of breath, thus, it can be used in the

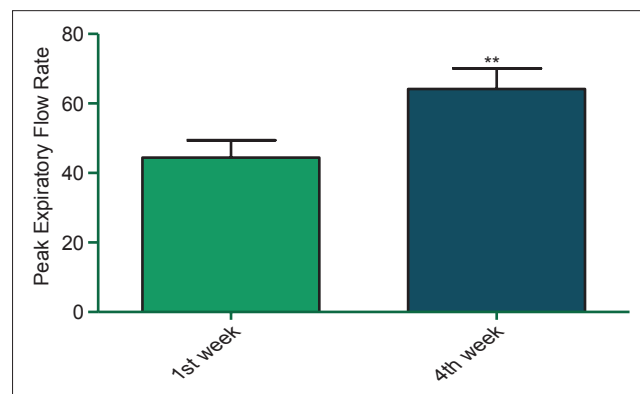


Fig. 3: Effect of N-Astheal[®] on peak expiratory flow rate

